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Extra Good Value—25 Ft. \$3.75

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Your attention is called to the fact
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boat from the Coast, a large shipment
of the best PORTO RICO MATS. Regu-
lar price, \$5; reduced to \$2.50.
THE LEADING HAT CLEANERS
No. 20 Beretania St., nr. Nuuanu Ave.
FELIX TURRO, Specialist

BY AUTHORITY.

MAUI LOAN FUND COMMISSION.

Sealed Tenders will be received at
the office of the Maui Loan Fund
Commission, at Walluku, Maui, T. H.,
until Saturday, September 14, at 10
o'clock a. m., for constructing, and
furnishing all labor, tools, equipment
and material, except all pipe and fit-
tings, necessary to construct, in ac-
cordance with the plans and specifica-
tions, a reservoir at Keokea, Kula, Is-
land of Maui, T. H., of a capacity of
approximately 500,000 gallons.

Plans and specifications and other
information may be had upon applica-
tion to the Maui Loan Fund Commis-
sion, or at the office of the Superin-
tendent of Public Works, at Honolulu,
T. H.

The right is reserved to reject any
and all bids.

Tenders must be made on forms fur-
nished by the Maui Loan Fund Com-
mission, and must be accompanied by
a certified check amounting to not
less than 5% of the amount of the ten-
der.

W. F. POGUE,
Vice Chairman, Maui Loan Fund Com-
mission. 5312-4w

MAUI LOAN FUND COMMISSION.

Sealed Tenders will be received at
the office of the Maui Loan Fund Com-
mission, Walluku, Maui, T. H., until
10 o'clock a. m., Saturday, September
14, for constructing a One-Story Frame
Building to be used as a schoolhouse
at Hanalei, Maui, T. H., to be built for
the Territory of Hawaii, according to
plans and specifications, and under the
supervision of the Maui Loan Fund
Commission.

Plans, specifications and other in-
formation may be had upon applica-
tion to the Maui Loan Fund Commis-
sion or at the office of the Superin-
tendent of Public Works, at Honolulu,
T. H.

The Maui Loan Fund Commission
reserves the right to reject any and
all bids.

Tenders must be made on forms fur-
nished by the Maui Loan Fund Com-
mission, and must be accompanied by
a certified check in amount equal to
5% of the tender.

W. F. POGUE,
Vice Chairman, Maui Loan Fund Com-
mission. 5312-4w

MAUI LOAN FUND COMMISSION.

Sealed Tenders will be received at
the office of the Maui Loan Fund
Commission, at Walluku, Maui, T. H.,
until Saturday, September 14, at 10
o'clock a. m., for constructing a road,
laying macadamized pavement, and
furnishing all labor, tools and mate-
rial for constructing approximately
20,000 feet of roadway from Makapili
Gulch to Waiakiki, on the Maui Belt
Road System.

Plans, specifications, etc., and other
information may be had upon applica-
tion to the Maui Loan Fund Com-
mission, or at the office of the Super-
intendent of Public Works, at Honolu-
lu, T. H.

The right is reserved to reject any
and all bids.

Tenders must be made on forms fur-
nished by the Maui Loan Fund Com-
mission, and must be accompanied by
a certified check amounting to not
less than 5% of the amount of the
tender.

W. F. POGUE,
Vice Chairman, Maui Loan Fund Com-
mission. 5312-4w

POLITICAL NOTICES.

REPUBLICANS OF FIRST PRE-
CINCT, FOURTH DISTRICT.

Attention!

A new enrollment of the Republican
Club, First Precinct, Fourth District,
is being made. All persons eligible as
voters are requested to enroll without
delay. The roll may be found at the
club headquarters in the Kaimuki Mer-
cantile Co.'s building, and will be
opened from 8 p. m., Friday, August
23, 1912, and thereafter daily between
the hours of 7:30 and 9 p. m., until
Friday, the 6th day of September, at
10 o'clock p. m.

By order of Enrollment Committee,
DANIEL LOGAN,
Chairman.

F. H. KILBEY,
Secretary. 5322-13t

CORPORATION NOTICES.

SPECIAL MEETING NOTICE.

Kohala Sugar Company.

Notice is hereby given that a spe-
cial meeting of the shareholders of the
Kohala Sugar Company will be held
at the office of Castle & Cooke,
Limited, in Honolulu, on Monday,
September 9, 1912, at 9 o'clock a. m.
At said meeting proposed amend-
ments to the By-Laws of the company
will be offered for consideration.

T. H. PETRIE,
Secretary, Kohala Sugar Company.
Honolulu, August 24, 1912.
5324-12t

BUSINESS NOTICES.

NOTICE.

Jacob Ordenstein will act for me
in all matters, with my full power of
attorney.

(Signed) M. E. SILVA.
5315-1m

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BY AUTHORITY.

REGULATIONS GOVERNING THE DISCHARGE OF NITRATE OF SODA, SULPHUR AND OTHER SIMILAR MATERIALS UPON THE WATERS OF THE TERRITORY OF HAWAII, AS AMENDED AU- GUST 28, 1912.

No nitrate of soda, sulphur, or
other similar materials shall be stored,
awaiting transportation, upon any
wharf within the Territory of Hawaii,
unless the same be packed in sound
and non-leaky containers. All nitrate
of soda, sulphur or other similar ma-
terials so stored shall, at the expense
of the consignee, be under the contin-
uous care of a competent watchman
until removed.

Masters, owners and consignees of
nitrate of soda cargoes, sulphur or
other similar materials must keep the
wharf at all times swept clean and
free of any loose nitrate of soda, sul-
phur or other similar materials during
the entire process of unloading and
removing the cargo. No loose nitrate
of soda, sulphur or other similar ma-
terials will be permitted to be landed.

In all cases nitrate of soda, sulphur
or other similar materials must be
landed from ships in sound containers.

During the process of discharging
or removing said cargoes, it shall be
obligatory on the part of the ship or
agents of said vessel, to provide water
containers of not less than fifty (50)
gallons each at intervals of not less
than fifty (50) feet apart with suit-
able buckets placed alongside each
container; said containers to be filled
with a solution of water and nitrate
of soda to be used in the case of fire.
Any person or persons who shall
violate the above Regulation shall be
guilty of a misdemeanor and shall be
subject to the penalties as provided
by Section 9, Act 163 of the Session
Laws of 1911.

MARSTON CAMPBELL,
Chairman, Board of Harbor Commis-
sioners.

EMIL A. BERNDT,
Secretary, Board of Harbor Commis-
sioners.

Adopted by the Board of Harbor
Commissioners on August 28, 1912.
5327-30t

LEGAL NOTICES.

IN THE CIRCUIT COURT OF THE FIRST CIRCUIT, TERRITORY OF HAWAII.

JOAO BORGES, Plaintiff, vs. JACIN-
THA DE JESUS BORGES, JACIN-
THA BOTELEIR BORGES, MARIA
AMARAL, JOSE BORGES, LUZIA
BORGES, MANOEL BORGES, MA-
NOEL AMARAL and JOHN AMAR-
AL, all Defendants.
MARIE REIS, FRED REIS, JOHN
REIS, LOUIZ REIS, GEORGE REIS,
AND ADELINE REIS, by MARIE
REIS, their guardian ad litem, De-
fendants.

The Territory of Hawaii.
To the High Sheriff of the Territory
of Hawaii, or his Deputy, the Sheriff
of the City and County of Honolulu,
or his Deputy:

You are commanded to summon Jacin-
tha de Jesus Borges, Jacintha Bot-
thelheiro Borges, Marie Amaral, Jose
Borges, Luzia Borges, Manoel Borges,
Manoel Amaral and John Amaral by
F. Schnack, their guardian ad litem,
MARIE REIS, FRED REIS, JOHN
REIS, LOUIZ REIS, GEORGE REIS,
and ADELINE REIS, by MARIE
REIS, their guardian ad litem, De-
fendants.

You are commanded to summon Jacin-
tha de Jesus Borges, Jacintha Bot-
thelheiro Borges, Marie Amaral, Jose
Borges, Luzia Borges, Manoel Borges,
Manoel Amaral and John Amaral by
F. Schnack, their guardian ad litem,
MARIE REIS, FRED REIS, JOHN
REIS, LOUIZ REIS, GEORGE REIS,
and ADELINE REIS, by MARIE
REIS, their guardian ad litem, De-
fendants.

I hereby certify that the foregoing is
a full, true and correct copy of the
original Summons which is now on
file in the office of the Clerk of the
Circuit Court of the First Judicial
Circuit of the Territory of Hawaii in
a cause entitled Joao Borges vs. Jacin-
tha de Jesus Borges et al.
Dated, Honolulu, July 18, 1912.

J. A. DOMINIS,
Clerk, Circuit Court, First Circuit.
5291-3m-Thur

One Hundred and Ninety Years Ago

Benjamin Franklin began to
save his pennies. The business he
started on those pennies is
still flourishing today.

You can earn dollars where Ben
earned pennies.

You can save safely where
Franklin had to take a chance
with a worn-out purse.

You can earn interest with us
where Franklin earned none.
And yet you say that you have
no chance. See us about it.

Bank of Hawaii, Ltd.

Capital-Surplus, \$1,200,000

COLDS CAUSE HEADACHE.

LAXATIVE BROMO-QUININE, re-
moves the cause. Used the world over
to cure a cold in one day. E. W.
GROVE'S signature on each box. Made
by NARIS MEDICINE CO., Saint Louis U. S. A.

Home Course in Road Making

IX.—The Gravel Road.

By LOGAN WALLER PAGE,
Director Office of Public Roads,
United States Department
of Agriculture.

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ciation, 1912.

GRAVEL may be defined as a
mass of small fragments of
stone which have been more or
less rounded through the ac-
tion of water and which have been
deposited by the same agency along
sluggish river channels or about the
margins of lakes or other bodies of
water. It may have been formed from
the hard rocks along the seashore, the
fragments of which, dislodged by the
elements, fall into the water and are
washed back and forth through the
action of the waves, gradually becom-
ing rounded and smaller.

In the New England states and other
of the states lying north of the Po-
tomac and Ohio river region gravel



A POORLY BUILT GRAVEL ROAD.

pits, which are frequently termed gla-
cial gravels on account of their direct
or indirect association with ice action,
are quite widely distributed, and these
have been and may be used to a
greater or less extent in road improve-
ment.

During recent geological history of
the continent the Atlantic and gulf
borders have been submerged at inter-
vals. The ocean has advanced inland
a number of times. During each of
these periods of continental submer-
gence the harder rock remnants along
the inner margins of the ocean's ad-
vance have been rounded, worn down,
deposited and redeposited with var-
ying proportions of sands and loams
and clays, thus forming beds of grav-
el, which are today available for road
building purposes.

Gravel roads and macadam roads
alike have often received sweeping con-
demnations as unsatisfactory when the
cause of failure was poor construction
and not the character of the material
used. The need of care in grading and
drainage in the construction of maca-
dam roads is being generally recog-
nized, but unfortunately many amate-
ur road builders seem to think that
gravel roads may be constructed by
simply piling gravel on the surface and
leaving it to be packed by the passing
traffic. In point of fact, the grading
and drainage and other details in con-
nection with the construction of a
gravel road should be done with as
much care and thoroughness as in the
case of a macadam road. Moreover,
in the one case as in the other specifi-
cations must be adapted to varying local
conditions. Of course, the gravel itself
must be selected with care. That which
contains a sufficient quantity of bind-
ing material so that it stands as a ver-
tical wall when it is being excavated
is generally the best, for the reason
that this same binding material will
re-cement the gravel when used for
road building.

There are three important qualities
which should be possessed by road
building gravel—hardness, toughness
and cementing or binding power. Of
these three qualities the last is the
most important. This binding quality
is due in part to the presence of oxide
of iron, lime or ferruginous clay and
in part to the angular shape and size
of the pebbles composing the gravel.

Blue gravel is universally conceded to
be the best for road construction, be-
cause it is usually derived from trap
rock. As the pebbles composing the
gravel retain the characteristics which
they formerly possessed as a part of
the larger rock itself, it follows that as
trap rock is considered an excellent
material for road building, trap rock
gravel should occupy the same relative
rank among the gravels. Limestone is,
generally speaking, a soft rock, and
consequently limestone gravel, which
is quite rare, will usually be found
soft and will wear rapidly. Quartz
possesses practically no binding power,
although it is very hard. Therefore
gravel which contains an exception-
ally large percentage of quartz will not
prove successful, as it will fail to con-
solidate unless it contains binding ma-
terial, or unless a good binder is added.

In order that the material may bind
readily the pebbles should be angular
and should vary in size so that the
smaller fragments may fill the voids

between the larger pieces. Gravel ob-
tained from streams is usually inferior
to pit gravel for the reason that the
action of the water has worn the pebbles
smooth and practically all the fine
binding material has been removed by
the same agency. Even if clay or loam
is mixed with river or creek gravel the
result is not likely to be as satisfactory
as that obtained by the use of pit grav-
el. Pit gravel frequently contains too
much clay or earthy matter, while river
gravel may have too much sand. In
such cases it is sometimes advisable to
screen the gravel so as to eliminate the
material which is too fine or that which
is too coarse. The screen should be
similar to that which is used in pre-
paring material for a macadam road.

In the handling of the gravel care
should be exercised not to separate the
binding material from it, nor should
this binding material be allowed to
settle to the bottom in spreading the
material over the road surface. It
will often be found advisable to spread
a thin layer of such binding material
over the surface after the material has
been distributed and rolled, and after
this the surface should be sprinkled
and rolled again or else rolled while
still damp from the rains.

A large part of the gravel found in
the Atlantic coastal plain is sufficient-
ly fine and uniform to render unneces-
sary any assorting for road building
purposes, but when the gravel, espe-
cially that which is to constitute the
surface layer, contains large pebbles
these should be removed and either
thrown aside or else raked into the
foundation or recrushed. At least 60
per cent by weight of the gravel should
be pebbles above one-eighth inch in
size, and there should be no pebbles in
the bottom layer that will not pass
through a two and a half or three inch
ring, and in the top layer there should
be no pebbles which will not pass
through a one and one-half inch ring.
Not over 20 per cent of the mass
should be clay, and this should be un-
iformly mixed and should contain no
large lumps. Ten or 15 per cent of clay
produces better results than 20 per cent.

If the foundation or roadbed is loose
it should be carefully rolled. It is
quite as important to have a solid
foundation for a gravel road as for a
macadam road. Gravel will compact
to about 80 per cent of its depth; loose
measure, provided earth shoulders are
placed on both sides of the road to
prevent the wasting away of the
gravel on the sides. If gravel is abun-
dant, however, these shoulders may be
built of gravel instead of with earth,
or the road may be surfaced with
gravel from shoulder to shoulder.

If the compacted depth of the gravel
road is to be eight inches and the
width twelve feet it will take about
2,250 cubic yards of gravel to the mile,
and it is best to make the first layer
about six inches in depth, loose mea-
sure, and the second layer about four
inches in depth, loose measure.

Gravel should not be dumped direct-
ly on the road, as this will usually re-
sult in a rough, uneven surface. If
especially devised spreading wagons
are not used the gravel should be
dumped on boards and spread from
them on to the road.

The gravel should be placed on the
road commencing at the end nearest
the gravel pit, in order that the teams
will aid in packing the material. A
spike or tooth harrow may be used to
advantage in spreading the material,
but if the gravel contains only a small
amount of binding material the har-
row should not be used, as it will have
the effect of bringing the larger peb-
bles to the surface and shaking the
binding material to the bottom.

Each layer of gravel should be rolled
separately. The rolling should begin
at the sides and continue toward the
center until the surface is thoroughly
compacted. The surface layer should



A PROPERLY CONSTRUCTED GRAVEL ROAD.

be sprinkled while the rolling is in
progress, but if a roller and sprinkler
are not available the road should be
constructed if possible in the spring of
the year, as the successive rains will
cause the material to pack much better
than if the road were built in the dry
hot summer or early fall.

If the gravel is lacking in suitable
binding material and clay or loam is
available a limited quantity of such
material may be spread over the sur-
face. The clay should be used very
sparingly, however, as it absorbs wa-
ter and causes the road to become soft
and muddy in wet weather and dusty
in dry weather. When the clay dries
it contracts and causes the road to
crack. Clay is also affected by frost.
The same may be said of loam. The
best binder of all is iron oxide, which
is frequently found coating the pebbles.
Very satisfactory results may be ob-
tained by surfacing the gravel road
with a thin layer of limestone or trap-
rock screenings.

The split log drag or some similar
device may be used to good advantage
in maintaining the gravel road.

LEGAL NOTICES.

GUARDIAN'S SALE OF REAL ES- TATE.

In accordance with a certain order
made by the Honorable Wm. L. Whit-
ney, Second Judge of the Circuit
Court of the First Circuit, Territory
of Hawaii, on the 26th day of Au-
gust, A. D. 1912, in the proceedings
entitled, "In re Guardianship of Er-
nest Cummings, a minor, Petition for
License to Sell Minor's Real Estate".

NOTICE IS HEREBY GIVEN that the
real estate belonging to said
minor, and more particularly hereinaf-
ter described, will be sold at public
auction to the highest bidder at the
auction rooms of Jas. F. Morgan Co.,
Ltd., Honolulu, on

SATURDAY, OCTOBER 5, 1912,
at 12 o'clock noon of said day.

Terms: Cash in United States gold
coin; deeds at the expense of the
purchaser.

The property to be sold as aforesaid
consists of all the right, title and in-
terest of said minor, being an undiv-
ided one-eighth interest in and to all
the lands situated in the Territory of
Hawaii, described as follows:

1. Land at Mokuauia, Kulihi, Hono-
lulu, being a portion of Apana 4,
Award 6450 to Kaunohou for Moe-
houna, conveyed to E. C. Cummings by
deed of T. B. Cummings dated July
30, 1891, recorded in Liber 84, page
228.

2. Land at Mokuauia, Kulihi, Hono-
lulu, being an area of 6299 square feet,
being a portion of Apana 4, Award 6450,
conveyed to W. H. Cummings by deed
of Kapule dated May 23, 1891, recorded
in Liber 130, page 364.

3. Land at Kalaupapa, Kulihi, Hono-
lulu, containing an area of 4.2 acres,
being a part of Apana 1, Grant 2924
to Richardson, conveyed to Clarissa
E. Cummings by deed of James I.
Dowsett dated August 1, 1893, record-
ed in Liber 141, page 352.

4. Land at Keonepanee, Kulihi, Hono-
lulu, containing an area of 7.69
acres, being Apanas 1 and 2 of Grant
2921 to Joseph Silva and conveyed to
Clarissa E. Cummings by deed of Ade-
lia C. C. Widdifield dated March 16,
1895, and recorded in Liber 152, page
493.

5. Land at Kulihi, Hono-
lulu, containing an area of 3.43 acres, being
the land described in Grant 2919, and
conveyed to Mrs. C. E. Cummings by
deed of Keliikula dated March 4,
1895, and recorded in Liber 152, page
495.

6. Premises at Kulihi, Hono-
lulu, described in L. C. A. 10498, R. P. 3546,
and conveyed to C. E. Cummings by
deed of Lau Chong dated January 17,
1895, recorded in Liber 152, page 237,
and by deed of Bruce Waring & Co.
dated May 6, 1895, and recorded in
Liber 154, page 306; and conveyed to
W. H. Cummings by deed of W. C.
Achi dated January 30, 1891, and re-
corded in Liber 136, page 352.

7. Land on Kanehameha IV Road in
Kalaupapa, Kulihi, Hono-
lulu, known as Lots Three, Four, Fifteen, Sixteen,
Seventeen and Eighteen of premises
described in Royal Patent 631, L. C.
A. 1204 to Kahola, and being a portion
of the land conveyed to W. H. Cum-
mings by William C. Achi by deeds
dated January 19, 1899, and March 24,
1899, and recorded in Liber 191, page
1, and 194, page 53.

8. Land at Kulihi, Hono-
lulu, described in Award 85 F. L. Royal Pat-
ent 2076 conveyed to W. H. Cum-
mings by deed of Andre Antone De
Cruz dated January 6, 1898, recorded in
Liber 177, page 63.

9. Land on N. King Street, Hono-
lulu, aforesaid, being Apana 1, Royal
Patent 1226, Award 933 conveyed to
Clarissa E. Cummings by K. H. Ka-
lekuor by deed dated October 20, 1893,
recorded in Liber